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## NOTES AND NEWS.

EDITED BY W. D. CAIRNS, Oberlin, Ohio.

Professor R. D. Carmichael has accepted a position in the University of Illinois.

Professor B. F. FINKEL was in charge of the mathematics at the summer school of the University of Colorado.

Mr. C. R. Dines, of Northwestern University, has been appointed to a position as instructor in mathematics at Dartmouth College.

Dr. H. B. PHILLIPS has been promoted to an assistant professorship of mathematics in the Massachusetts Institute of Technology.

Professor L. C. KARPINSKI, of the University of Michigan, and Mr. E. F. Gee of Detroit Central High School, were re-elected chairman and secretary, respectively, of the mathematics section of the Michigan Schoolmasters' Club at its April, 1915, meeting.

Mr. A. J. MILLER, instructor in mathematics at the University of Michigan, has been appointed by Harvard University to a travelling fellowship for the year 1915-1916. Mr. Miller expects to spend the year at Turin, Italy, studying with Professor Segre.

An article by Professor W. H. ROEVER of Washington University, on "The design and theory of a mechanism for illustrating certain systems of lines of force and stream lines," appeared in a recent number of *Zeitschrift für Mathematik und Physik*.

The death is reported of William B. Graves, professor emeritus of natural science at Phillips Academy, Andover, Mass., and for seven years professor of mathematics and civil engineering at the Massachusetts Agricultural College.

A work by G. F. HILL, of the British Museum, on the spread of the Hindu numerals in Europe has recently been published by the Clarendon Press, Oxford. A review will appear in a later issue.

Mr. J. C. NICHOLS, assistant professor of mathematics at the Texas Agricultural College, has been appointed to a fellowship in mathematics at the University of Michigan for the year 1915-1916. Mr. Nichols will devote himself to work in the history of mathematics.

Mr. CARL COE, who has been studying in Harvard University for the past two years, has resumed his position as instructor of mathematics in the University of Michigan.

An Italian edition of the work on "Mathematical Recreations and Problems," by W. W. ROUSE BALL, was published in 1911 (Bologna, N. Zanichelli), translated by Professor D. Gambioli.

The publishing house of A. Formiggini in Genoa has in progress a series of popular biographies (*Profili*), published at one lira, including in the numbers already issued *Archimedes*, by Favaro, and *Galileo Galilei*, by the same author.

Dr. Roger A. Johnson, of Western Reserve University, gave a course on "Geometry for Teachers" at the Harvard University summer school this summer.

On the list of those elected to membership in the American Philosophical Society occur the names of Professor W. F. OSGOOD of Harvard University, and Professor J. A. MILLER of Swarthmore College.

At Harvard University Dr. E. V. HUNTINGTON has been promoted to an associate professorship in mathematics, and at the University of Minnesota Dr. W. H. BUSSEY has been likewise honored.

Mr. C. H. YEATTON has been appointed to an instructorship in mathematics at Northwestern University. He has just completed his work for the doctorate at the University of Chicago.

Dr. H. S. WHITE, professor of mathematics in Vassar College, and Dr. R. A. MILLIKAN, professor of physics in the University of Chicago, were elected to membership in the National Academy of Sciences on April 21, 1915.

Professor E. F. CODDINGTON, of the department of mechanics in Ohio State University, will be acting dean of the college of engineering this year during the absence of Dean Orton; Professor C. C. MORRIS, of the department of mathematics, will act as assistant to the dean.

Professor A. B. COBLE of Johns Hopkins University, and Professor W. A. HURWITZ of Cornell University, have been chosen associate editors of the *Transactions of the American Mathematical Society*.

JOSEPH J. HARDY, professor of mathematics and astronomy, and for forty-five years a member of the faculty of Lafayette College, died on May 2, 1915.

Professor HENRY SUZALLO, of the department of education in Teachers College, Columbia University, and author of "The Teaching of Primary Arithmetic" and other educational texts, has been elected to the presidency of the University of Washington.

In *School Science and Mathematics* for June Professor M. O. TRIPP, of Olivet College, writes on "Some simple applications of elementary algebra to arithmetic," and Mr. H. C. WRIGHT, in a paper on "Mathematical equipment and its uses" reports some of the methods employed in the University of Chicago high school.

The January-February number of *Rendiconti del Circolo Matematico di Palermo* contains two articles by Americans: "Continuity of functions of infinitely many variables," by Professor W. D. A. WESTFALL, of the University of Missouri, and "Infinite developments and the composition property ( $K_{12}B_1$ ) in general analysis," by Dr. E. W. CHITTENDEN, of the University of Illinois.

Mr. A. L. NELSON has been appointed to an instructorship in mathematics at the University of Michigan. Mr. Nelson is a graduate of the University of

Kansas and has just completed his work for the Doctorate at the University of Chicago.

Miss MARY E. WELLS has accepted a position as instructor in mathematics at Vassar College. During the past year she acted as supply at Oberlin College during the leave of absence of Dr. Mary E. Sinclair. Miss Wells has just taken the doctorate at the University of Chicago.

Dr. P. ZEEMAN, since 1902 professor of geometry and theoretical mechanics in the University of Leyden, died on May 8, 1915.

The *compte rendu* of the international conference on the teaching of mathematics held last April in Paris has now been published by the Georg press in Geneva, Switzerland, under the editorship of the secretary, Professor H. Fehr.

Mr. H. E. Webb, head of the department of mathematics in the Commercial and Manual Training High School in Newark, N. J., is chairman of a committee of the Society for the Promotion of Engineering Education, which has recently made a preliminary report on "Cooperation with secondary schools," which should be of interest to readers of the MONTHLY. It is printed in Volume XXII, 1915.

Dr. WILLIAM M. SMITH, of the University of Oregon, has been elected associate professor of mathematics at Lafayette College in place of the late Professor Hardy. Dr. Smith will also be registrar of the College.

Dr. MORGAN W. CROFTON, F.R.S., formerly professor of mathematics at Queen's College, Galway, and later professor of mathematics and mechanics at the Royal Military Academy, Woolwich, died on May 13, 1915, in his eighty-ninth year. He was the author of text-books and tracts on mechanics and also contributed papers to the leading mathematical journals. He wrote the chapter on mean values and probability in Williamson's "Integral Calculus," a topic in which he was a pioneer investigator.

The International Commission on the Teaching of Mathematics has recently issued, through the Bureau of Education at Washington, an important bulletin on the teaching of elementary and secondary mathematics in all the leading countries of the world. This bulletin, No. 45, 1914, was prepared by J. C. BROWN, and sets forth the nature of the mathematics taught in every school year, from the first through the twelfth, in the standard type of school. It should be in the hands of every teacher of mathematics, and may be secured by addressing the United States Commissioner of Education, Washington, D. C.

About eighty-five teachers of mathematics and allied sciences were present at the last meeting of the Michigan Schoolmasters' Club. The papers at this session were devoted entirely to practical phases of the teaching of high school mathematics. Correlation and real problems occupied a prominent place in the discussion. At the meeting for April 1916, it is proposed to continue the discussion of real problems in high school work, and also to discuss the relation of the various phases of higher mathematics to the elementary mathematics.

A new number of the *Encyclopédie des Sciences Mathématiques* was published recently. It is dated March 15, 1915, and is the first number of the French edition of this extensive work, which has appeared since the beginning of the present European War. It is an unusually large number, containing 292 pages, and is devoted to the principles of rational mechanics and to statistical mechanics. The article on the former of these two subjects is more than fifty per cent. larger than the corresponding article in the German edition, but the article on the latter subject is only slightly changed, except that a supplement is added bringing the work up to date.

In spite of war conditions, recent numbers of *L'Intermédiaire* have been sent to its subscribers. Although the character of problems proposed in this journal does not perhaps permit of their being offered in our department of Problems, it will be interesting to quote a few which are typical.

- (1) Integrate the partial differential equation

$$\frac{\partial z}{\partial x} + \frac{\partial z}{\partial y} + \frac{\partial^2 z}{\partial x \partial y} = 0.$$

- (2) Form a table of the possible and impossible values for  $h$ , less than an assigned number, given that

$$x^3 - hy^3 = z^2, \quad x^3 + hy^3 = t^2,$$

$x, y, z, t$  and  $h$  being positive integers. For example,  $x = 5, y = 1, z = 9, t = 13, h = 44$ .

- (3) Show that

$$a^2 \int_0^{\pi/2} \frac{\sin^4 \varphi \cos^2 \varphi d\varphi}{(a^2 \sin^2 \varphi + b^2 \cos^2 \varphi)^4} - b^2 \int_0^{\pi/2} \frac{\sin^2 \varphi \cos^4 \varphi d\varphi}{(a^2 \sin^2 \varphi + b^2 \cos^2 \varphi)^4} = 0$$

without calculating the definite integrals.

An interesting conference was held at the University of Indiana in May, 1915. It was the second annual conference on "Educational Measurements." There were fifteen or more speakers, and the program shows that a serious effort was made to discover some standards by which to judge educational work. The proceedings have been published in pamphlet form. The first conference, in 1914, resulted in trying out the Courtis Arithmetic Tests in grades V to VIII in twenty Indiana City school systems. The results were sent to the Psychological Laboratory of Indiana University, where they were studied and arranged in comparative tables and charts. The University has issued a pamphlet covering the results of this study under the title "Arithmetic: A Cooperative Study in Educational Measurements."

The eleventh annual session of the Association of Ohio Teachers of Mathematics and Science was held at the Ohio State University, April 2 and 3, under the presidency of Professor C. C. Morris of Ohio State University. Professor E. H. Taylor of the Eastern Illinois State Normal gave two lectures on "Recent tendencies in the teaching of secondary mathematics," in which among other things he recommended the establishment in this country of the "continuation school" now being conducted in Germany as a school intermediate in character between

the American trade schools and colleges of engineering. Mr. C. F. Geeting of the Canton high school read a paper on "The first two years in high school mathematics." The association directed the appointment of a large committee, representing all sections of the state, which is to draft a bill for introduction in the state legislature substituting the metric for the British system; this committee is also to conduct an educational campaign for its popular adoption and to urge the teaching of the metric system as early as the second and third school years.

Some interesting developments in connection with mathematical clubs among high school students have come to the attention of the MONTHLY. A club at Hutchinson, Kan., has discussed such topics as Euclid and his work, The trisection of an angle, The squaring of the circle, The use of graphs, The slide rule, History of our numerals, History of logarithms, Life of Pythagoras, with different proofs of his theorems, and a debate on the question whether one year of algebra and one year of geometry should be required for graduation from the high school, the decision resulting in the affirmative.

A club at the Wendell Phillips high school in Chicago has discussed the following topics: Pascal's theorem on a set of secant lines, The relation between the circumcenter of a triangle, the inradius, and the distance between these centers, The collinearity of the center of the nine point circle, the centroid, the orthocenter, and the circumcenter of a triangle.

A club at the Hyde Park high school, Chicago, has also accomplished some remarkable results, an account of which will soon be published in *School Science and Mathematics*, where also was published last year an extended report of a club at the Shattuck School, Faribault, Minn.

In all these clubs the membership and attendance are purely voluntary and the enthusiasm runs high.

*L'Enseignement Mathématique*, Vol. XVII, Nos. 1 and 2, Jan. 15 and Mar. 15, 1915, contain the following articles which are of particular interest to teachers of mathematics: (1) *The problem of interpolation and Taylor's formula*, by R. Suppantchitsch of Vienna, (2) *On the trinomial of the second degree,  $ax^2 + bx + c$* , by P. Suchar, of Pau; (3) *On the teaching of mathematics*, by G. Fontené, of Paris; and (4) *Trigonometry and its relations to geometry*, by A. Streit in Bern. In the article by Streit the theorems of Ceva, Menelaus, and Ptolemy are derived from simple trigonometrical and geometrical considerations.

These numbers also give the questionnaire on an "Inquiry into the training of teachers of mathematics in secondary schools in different countries," as proposed by the Central Committee of the International Commission on the Teaching of Mathematics. "The Central Committee desires to continue its work, though renouncing the hope of summoning a conference. If the national subcommissions furnish the necessary documents, the work projected for 1915 will be collected in a pamphlet similar to that which was devoted to the conference at Paris." The parts of the questionnaire are devoted to (1) general preparation of candidates, (2) theoretical scientific teaching, (3) professional training, (4) subsequent improvement, (5) legal provisions as to teachers, (6) bibliography.

The *Bollettino di Bibliografia e Storia delle Scienze Matematiche*, a journal published under the editorship of Professor GINO LORIA, at Genoa, Italy, and devoted to the historical and bibliographical side of mathematics is now in its seventeenth year. The first three issues of 1914, the latest at hand, contain the following articles in Italian: (1) *Unpublished Contributions to the Correspondence of Evangelista Torricelli*, by Profesor Antonio Favaro; (2) *Concerning the Name, "Algoritmo,"* a discussion of the use of the word *Algorism* as a title and its recognition as part of the name of Mohammed ibn Musa al-Khowarizmi; and (3) *The Theory of Proportion in an Unpublished Manuscript of Evangelista Torricelli's*, by F. Podetti. This latter work connects directly with the attempts in the period of Galilei to explain in an easy way the substance of Euclid's definition of equal ratios and the rest of Book V, by means of the principles which Galilei wished to substitute for Euclid's definitions.

Each number contains, besides a leading article of the kind indicated bibliographical material topically distributed, as well as notes on current events of interest to mathematicians. Typographical errors in English, French and German quotations are fairly frequent. However, the journal certainly serves a useful purpose in stimulating an interest in the history of science, to which field Italians like COSSALI, LIBRI, LORIA, FAVARO and SCHIAPPARELLI have made most noteworthy contributions.

The following is from a letter of Professor Cajori written to the MONTHLY while he was traveling in Europe:

"I met in Zurich Professor F. Rudio, the editor-in-chief of the collected works of Leonhard Euler, which are now in course of publication. The war is causing some delay and other perplexing complications; nevertheless, the printing is progressing. I found Professor Rudio reading proof. He expressed appreciation of the contribution toward this enterprise of \$1,000, made by the American Mathematical Society. I was disappointed when I learned that only about twenty subscriptions for the collected works came from the United States. Owing to lack of foresight in the management of our libraries, American mathematicians will not enjoy the convenience of easy access to Euler's works to a degree at all commensurate with the fine gift made by the American Mathematical Society. In view of the tremendous importance of this most prolific and genial eighteenth century mathematician, who figures in the early development of nearly every part of modern mathematics, the number of subscriptions from the United States should not be 20, but 220. The rapidly growing universities of the South, West and Middle West will find it later increasingly difficult and perhaps eventually impossible to secure the complete works of Euler. The edition will consist of 40 volumes. Subscriptions can still be secured through Professor F. Rudio (111 Dolderstrasse, Zurich) at the reduced rate of \$5 per volume. As not more than three volumes are published per year, the yearly outlay is but slight."